Space Weather Forecast

Issued on Friday, 30 August 2024 at 12:16 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

---

Space Weather Forecast Headline: Moderate-class flares likely.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Activity has been Moderate, with one Moderate flare observed from a new region near to the southeast limb. There are nine regions currently on the visible disc, with a moderately sized but compact region close to the southeast limb the most likely source of significant flares. This region has some apparent complexity. Another region, also in the southeast, has shown the most recent development, with growth of leading and trailing spots as well as the formation of smaller intermediate spots. The other regions on the disc remain relatively simple, and mostly decaying or stable.

No Earth directed Coronal Mass Ejections (CME) have been observed in the past 24hrs.

Solar Wind / Geomagnetic Activity: Solar wind parameters continued to show ongoing influence from a CME that arrived early on 27 Aug. Solar wind speeds persisted mostly at background levels, just reaching slightly elevated levels for a time, while the Interplanetary Magnetic Field was predominantly at strong levels. The north-south component off the field was predominantly positive (northward), moderately to strongly so, before turning positive (southward) from 30/0745UTC. Geomagnetic activity has been Quiet-Unsettled (Kp1-3).

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) continued to be at background with no Solar Radiation storms observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Low to Moderate activity is forecast with Moderate-class flares likely and a slight chance of isolated Strong flares occurring.

Solar Wind /Geomagnetic Activity: There are no Earth-directed CMEs. Current CME enhancement is forecast to continue to gradually wane. However, there is a chance of temporary weak solar wind enhancements from a small coronal hole today (30 Aug). Another slight solar wind enhancement, from a thin coronal hole near centre disc, may arrive through Day 4 (02 Sep).

Geomagnetic activity is expected to be mainly Quiet-Unsettled (Kp1-3) on Day 1 (30 Aug) before becoming mainly Quiet through Days 2-3 (31 Aug-01 Sep). There is a chance of Active (Kp4) intervals and a slight chance of G1/Minor Storm intervals (Kp5) on Days 1 (30 Aug) and Day 4 (02 Sep) however, due to the effects of the lingering CME influence and possible high speed streams mentioned above.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is forecast to be at background with only a slight chance of Solar Radiation storms occurring.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2024. All Rights Reserved.

Met Office

Space Weather Forecast

Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	10	5	5	10
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	Yes	60	60	60	60
Very Active	R3 to R5 X	No	5	5	5	5

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	10	10	10	10
Very Active	≥ S3 *	No	1	1	1	1
* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)						

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2024. All Rights Reserved.